

REMARKS

Upon entry of the Amendment, Claims 1-11 will be the claims pending in the application.

Claim 1 has been amended to recite that only a bottom of the outer casing being fixed to each other by a flange. Also, claim 1 has been amended to remove the reference characters. Support for the amendment to claim 1 can be found in the specification, for example, on page 14, line 12 bridging page 15, line 5.

No new matter has been added, and entry of the amendments is respectfully requested.

I. Rejection of Claims 1, 2, 6, 9 and 10 under 35 U.S.C. § 102(b)

Claims 1, 2, 6, 9 and 10 are rejected under 35 U.S.C. § 102(b) as allegedly being anticipated by Christensen (US 3,041,151). Applicants respectfully traverse this rejection.

As claimed in amended claim 1, only a bottom of the outer casing is being fixed to each other by a flange.

Applicants respectfully submit that, according to the present invention, the flange is to be laid at the heat exchanger's outer size at least away from the reactor. The flange as a joint is not provided in parts other than the vertical bottom of the outer casing. Accordingly, by providing a flange only at a bottom of the outer casing, the flange part in the reaction apparatus can be prevented from overheating and a sealing material composed of a normal low-temperature construction material can be used for the flange. See page 3, line 13 to page 4, line 9.

Christensen at least fails to disclose that only a bottom of the outer casing is being fixed to each other by a flange. Christensen also fails to disclose preventing the flange part from overheating and thereby using a sealing material composed of a normal low-temperature material for the flange. As shown in the figures of Christensen, a joint such as a flange is located near the

reactor exposed to a high temperature. Consequently, the joined part can not be prevented from overheating. Figures 1 & 2 of Christensen.

Furthermore, with respect to Claim 9, Christensen does not disclose or teach a reaction method comprising the steps of introducing a gas into a double piping, wherein the double piping has an inner tube and an outer tube. Moreover, the step of passing gas in the particular sequential arrangement as claimed in the present application is not disclosed or taught by Christensen.

Accordingly, it is respectfully submitted that Christensen does not anticipate the present claims, and withdrawal of the present rejection of claims 1, 2, 6, 9 and 10 under 35 U.S.C. § 102(b) is respectfully requested.

II. Claim Rejections under 35 U.S.C. § 103(a)

Claim 3 is rejected under 35 U.S.C. 103(a) as being allegedly unpatentable over Christensen as applied to claim 1 as discussed above, and further in view of Keto et al. (US 3,732,517; “Keto”).

Claims 4 and 5 are rejected under 35 U.S.C. § 103(a) as being allegedly unpatentable over Christensen as applied to claim 1 as discussed above, and further in view of Serratore et al. (US 3,278,633; “Serratore”).

Claim 7 is rejected under 35 U.S.C. § 103(a) as being allegedly unpatentable over Christensen as applied to claim 6 above, and further in view of Nakamura et al. (US 3,814,171; “Nakamura”).

Claim 8 is rejected under 35 U.S.C. § 103(a) as being allegedly unpatentable over Christensen.

Claim 11 is rejected under 35 U.S.C. § 103(a) as being allegedly unpatentable over Christensen.

Applicants respectfully traverse the above rejections for the following reasons.

Christensen does not disclose or teach the recitation that only a bottom of the outer casing is being fixed to each other by a flange, as presently claimed in claim 1. In addition, Christensen does not disclose or teach a reaction method comprising the steps of introducing a gas into a double piping, wherein the double piping has an inner tube and an outer tube. The step of passing gas in the particular sequential arrangement as claimed in claim 9 is not disclosed or taught by Christensen.

None of the cited references, Keto and Serratore and Nakamura, either alone or in combination, makes up the above noted deficiencies of Christensen.

Accordingly, claims 3-8 and 11 depending from claims 1 and 9, respectively, are therefore patentable over the cited references at least by virtue of their dependency from claims 1 and 9.

III. Conclusion

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

AMENDMENT UNDER 37 C.F.R. § 1.116
Application No.: 10/508,858

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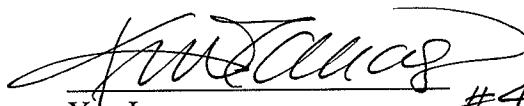
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